

WHAT IS CLAIMED IS:

1. A method for identifying an agonist or antagonist of a mammalian SP168 receptor, comprising:

5 (a) contacting a mammalian SP168 receptor or a functional fragment thereof, in the presence of a known amount of a labeled SP168 receptor ligand with a sample to be tested for the presence of the SP168 receptor agonist or antagonist; and

(b) measuring the amount of labeled SP168 ligand specifically bound to the receptor;

10 whereby the SP168 receptor agonist or antagonist in the sample is identified by measuring the difference in binding of the labeled SP168 receptor ligand to the receptor, compared to what would be measured in the absence of such agonist or antagonist.

15 2. The method of claim 1 wherein the SP168 receptor ligand is selected from the group consisting of ADP, ADP β S, 2-MeS-ADP, 2-MeS-ATP, 2-Cl-ATP and ATP γ S.

3. The method of claim 1 wherein the SP168 receptor is defined as having the amino acid sequence of SEQ ID NO: 2.

20 4. An agonist or antagonist of a mammalian the SP168 receptor identified by the method of claim 1.

5. A pharmaceutical composition comprising:

(a) an antagonist or agonist of a mammalian the SP168 receptor; and

25 (b) a pharmaceutically acceptable carrier.

6. The pharmaceutical composition of claim 5 wherein the SP168 receptor agonist or antagonist is a small organic molecule which specifically binds to a mammalian SP168 receptor.

30 7. The pharmaceutical composition of claim 5 wherein the SP168 receptor antagonist is an antibody or antigen-binding fragment thereof which specifically binds to a mammalian SP168 receptor and blocks the binding of the SP168 receptor ligand to the SP168 receptor.

35 8. A method of treating a medical condition caused or mediated by a mammalian SP168 receptor comprising administering to a mammal afflicted with the

condition, an effective amount of a pharmaceutical composition comprising an antagonist or agonist of the SP168 receptor.

5 9. The method of claim 8 wherein the medical condition is a neurodegenerative disorder.

10 10. The method of claim 9 wherein the neurodegenerative disorder is selected from the group consisting of Parkinson's Disease, Alzheimer's Disease, Huntington's Disease, amyotrophic lateral sclerosis (ALS) and multiple sclerosis (MS).

11. The method of claim 8 wherein the mammal is a human being.

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